

**REMARKS**

Claims 1, 6, 8, 14, 35 and 40 are amended. Claims 9-13 are cancelled. Claims 1-8, 14-44 and 59 are pending in the application.

The pending claims stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The Examiner indicates at page 2 of the present Action that the preamble of independent claims 1, 9, 14, 35 and 40 which recite "a method of generating information about particulates present in a fluid" makes the field of the invention vague and indefinite. Applicant notes that the definiteness requirement of § 112 requires a "reasonable degree of particularity and distinctness" to allow a person of ordinary skill in the art to determine the scope of the claim. It is the claim itself which must be definite, not the "field of the invention" as set forth by the Examiner. However, in order to expedite the prosecution of the present application, applicant has amended independent claims 1, 14, 35 and 40 to incorporate the phrase "utilizing a microscope" as suggested by the Examiner. Accordingly, applicant requests withdrawal of the § 112, second paragraph, 'vague field of invention' rejection of claims 1, 14, 35 and 40.

With respect to claim 1 the Examiner further indicates that the term "comprising" with respect to a shade should be changed to the term "having". Without admission as to the propriety of the Examiner's rejections, applicant has incorporated the suggested terminology into independent claim 1.

The Examiner further indicates that imparting a second shade as recited in claim 1 renders the claim indefinite since the duration of the second shade is unclear. In attempt

to clarify claim 1, applicant has amended such to indicate that the second shade is retained by at least a fraction of the substrate after the filtering.

The Examiner also indicates that claim 1 is indefinite because it is unclear as to how filtering can impart a second shade and whether a gas chemically reacts with the substrate to change the shade. Applicant notes that there is no requirement that a mechanism be shown or speculated upon so long as one of ordinary skill could make or use the claimed invention without undue experimentation. Accordingly, the mechanism by which a second shade is imparted is not required to be shown or specified.

The Examiner additionally indicates with respect to claim 1 that "since changing the shade of the substrate does not seem to play a role in the scanning of the particulates as long as the substrate provides a background for the particulates, the Examiner considers any substrate used in microscope analysis as the substrate of claims 1-7". Applicant notes that every claim limitation must be considered in examining the claim (*Diamond v. Diehr*, 450 U.S. 188-89, 209 USPQ at 9). The Examiner is not allowed to read out any of the recited elements when considering the claims. Accordingly, when considering method claim 1, the Examiner is required to consider each and every recited element of the method.

With respect to claim 6 the Examiner suggests changing the phrase "the relative contrast" to "the relative contrast of the particulates". Without admission as to the propriety of the Examiner's rejection, claim 6 is amended to incorporate the suggested terminology.

With respect to claim 8 the Examiner indicates that the expression "a group which appears darker than the substrate in the obtained data" is not clear since data can be an image or can be numerical. Without admission as to the propriety of the Examiner's

rejection, claim 8 is amended to recite utilizing obtained data to sort retained particulates into a group which appears darker than the substrate and another group which appears lighter than the substrate.

Applicant believes the amendments discussed above overcome the various § 112 rejection of independent claims 1, 14, 35 and 40, and their corresponding dependent claims 2-8, 15-34, 36-37, 41-44 and 59. Accordingly, applicant respectfully requests withdrawal of the § 112 rejections of the pending claims.

Claims 1-2, 4 and 7 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Pavate, U.S. Patent No. 6,001,227. The Examiner is reminded by direction to MPEP § 2131 that anticipation requires each and every element of a claim to be disclosed in a single prior art reference. The Examiner is further reminded that, as discussed above, every element of a claim must be considered during examination. Independent claim 1 recites a method comprising filtering through a substrate having a first shade where the filtering imparts a second shade that is retained by at least a fraction of the substrate after filtering, the second shade by either darker or lighter than the first shade. Claim 1 further recites determining a contrast of two or more particulates relative to the fraction of the substrate comprising the second shade. Pavate does not disclose imparting a second shade or determining a contrast of two or more particulates relative to the second shade. Accordingly, independent claim 1 is not anticipated by Pavate and is allowable over this reference.

Dependent claims 2, 4 and 7 are allowable over Pavate for at least the reason that they depend from allowable base claim 1.

Dependent claims 3, 5, 6 and 8 stand rejected under 35 U.S.C. § 103(a) as being

unpatentable over Pavate independently, or as combined with one or more of Woodard, U.S. Patent No. 5,494,743, and Dewey, U.S. Patent No. 3,674,926. The Examiner is reminded by direction to MPEP § 2143 that a proper obviousness rejection has the following three requirements: 1) there must be some suggestion or motivation to modify or combine reference teachings; 2) there must be a reasonable expectation of success; and 3) the combined references must teach or suggest all of the claim limitations. Claims 3, 5, 6 and 8 are each allowable over the various cited combinations of Pavate, Woodard and Dewey for at least the reason that the references, individually or as combined, fail to disclose or suggest each and every element in any of those claims.

As discussed above, independent claim 1 is not anticipated by Pavate. Further, Pavate does not suggest the claim 1 recited imparting a second shade to at least a fraction of a substrate, the second shade being either darker or lighter than the first shade of the substrate, and determining a contrast of two or more particulates relative to the fraction of the substrate having the second shade. Independent claim 1 is therefore not rendered obvious by Pavate. Neither Woodard nor Dewey contribute toward suggesting the claim 1 recited imparting a second shade by filtering and determining a contrast of two or more particulates relative to the fraction of the substrate having the second shade. Accordingly, independent claim 1 is not rendered obvious by the various cited combinations of Pavate, Woodard and Dewey.

Claims 9-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over various cited combinations of Pavate, Woodard and Udler (Technical note 203). Without admission as to the propriety of the Examiner's rejections, claims 9-13 are cancelled.

Dependent claims 14-34 stand rejected under 35 U.S.C. § 103(a) as being

unpatentable over various cited combinations of Pavate, Woodard, Dewey, Udler, Meisburger, U.S. Patent No. 5,502,30, and International Advanced Materials (IAM web page material). Independent claim 14 recites forming a first solution comprising a dispersion of undissolved material from a first portion of a composition, forming a second solution comprising a dispersion of undissolved material from a second portion of the composition and depth profiling the composition by comparing information generated from the first and the second portions of the composition. None of the cited references, individually or as combined, teach or suggest the claim 14 recited depth profiling comprising comparing information generated from a first portion of a composition and information generated from a second portion of the composition.

The Examiner acknowledges at page 8 of the present action that the cited references do not disclose depth profiling as recited in claim 14. However, the Examiner indicates that it would be obvious to do so because homogeneity of sputtering targets is a quality parameter. The Examiner does not indicate any basis for this conclusory statement and such basis is not provided by any of the references cited. The only suggestion of the recited method of generating information comprising depth profiling by comparing information generated from a first set of data and a second set of data relating to relative to contrast of retained undissolved materials on a first and second substrate, respectively, as recited in claim 14 is found in applicant's own specification. Accordingly, the present rejection appears to be based on an improper hindsight reconstruction. Applicant respectfully requests withdrawal of such rejection of claims 14-34 in the Examiner's next action.

Claims 35-39 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over

various cited combinations of Pavate, Woodard, Dewey, IAM and Kitamura, U.S. Patent No. 5,477,049. Independent claim 35 recites providing a composition comprising at least one of Sb, Pb and Sn, selectively dissolving some components of the composition while leaving other undissolved, the undissolved components comprising at least two types, one type being darker than a background and a second type being lighter than the background and obtaining data about light scattering by the undissolved components utilizing a microscope. None of the cited references, individually or as combined, disclose or suggest the claim 35 recited selectively dissolving some components of a composition comprising at least one of Sb, Pb and Sn. Accordingly, independent claim 35 is not rendered obvious by the cited combinations of references.

Dependent claims 36-39 and 59 are allowable over the cited combinations of Pavate, Woodard, Dewey, IAM and Kitamura for at least the reason that they depend from allowable base claim 35.

Claims 40-44 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Pavate, Woodard, Dewey and Meisburger. Independent claim 40 recites retaining impurities comprised by a composition on a substrate, modifying a light absorbing property of at least some of the impurities retained on the substrate, and obtaining data including a relative darkness of impurities relative to a background defined by the substrate. The cited references, considered individually or as combined, fail to disclose or suggest the claim 40 recited modifying a light absorbing property of impurities retained on a substrate and obtaining data including the relative darkness of impurities relative to a background defined by a substrate. Accordingly, independent claim 40 is not rendered obvious by the various cited combinations of Pavate, Woodard, Dewey and Meisburger and is allowable over

Appl. No. 09/595,583

these references.

Dependent claims 41-44 are allowable over the various cited combinations of Pavate, Woodard, Dewey and Meisburger for at least the reason that they depend from allowable base claim 40.

For the reasons discussed above, pending claims 1-18, 14-44 and 59 are allowable. Accordingly, applicant respectfully requests formal allowance of such pending claims in the Examiner's next action.

Respectfully submitted,

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